**American College of Radiology**  
**ACR Appropriateness Criteria®**  

**Malignant or Aggressive Primary Musculoskeletal Tumor-Staging And Surveillance**

**Variant 1:**  Malignant or aggressive primary musculoskeletal tumor. Initial staging. Evaluation for pulmonary metastasis.

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17 (27951459) | 3

**Variant 2:** Malignant or aggressive primary musculoskeletal tumor. Initial staging. Evaluation for extrapulmonary metastasis.

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36 (21716019) | 2
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32 (14693872) | 2
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15 (22134535) | 3

MRI whole body without IV contrast    | May be appropriate (Disagreement) | Expert Opinion | O 0 mSv | O 0 mSv [ped] | 5     | 5     | 1 0 1 1 10 0 0 2 1 |

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|-------------------|-------------------|---------|-----------------|-------------------------|---|---|---|---|---|---|---|---|---|---|---|---|
| Fluoride PET/CT whole body | May be appropriate (Disagreement) | Expert Opinion | ▶️▶️▶️▶️ 10-30 mSv | | 5 | 5 | 3 | 0 | 4 | 2 | 4 | 3 | 0 | 0 | 0 |
| FDG-PET/MRI whole body | May be appropriate | Limited | ▶️▶️▶️ 1-10 mSv | | 5 | 5 | 0 | 0 | 1 | 3 | 11 | 0 | 1 | 0 | 0 |
| Bone scan whole body | May be appropriate | Strong | ▶️▶️▶️ 1-10 mSv | ▶️▶️▶️▶️ 3-10 mSv [ped] | 4 | 4 | 0 | 0 | 2 | 7 | 5 | 1 | 0 | 0 | 1 |</p>
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**Variant 4:** Malignant or aggressive primary bone tumor. Surveillance for local recurrence.

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Appendix Key
A more complete discussion of the items presented below can be found by accessing the supporting documents at the designated hyperlinks.

**Appropriateness Category:** The panel's recommendation for a procedure based on the assessment of the risks and benefits of performing the procedure for the specified clinical scenario.

**SOE:** Strength of Evidence. The assessment of the amount and quality of evidence found in the peer reviewed medical literature for an appropriateness recommendation.

- **References:** The citation number and PMID for the reference(s) associated with the recommendation.
- **Study Quality:** The assessment of the quality of an individual reference based on the number of study quality elements described in the reference.

**RRL:** Relative Radiation Level. A population based assessment of the amount of radiation a typical patient may be exposed to during the specified procedure.

**Rating:** The final rating (1-9 scale) for the procedure as determined by the panel during rating rounds.

**Median:** The median rating (1-9 scale) for the procedure as determined by the panel during rating rounds.

**Final tabulations:** A histogram showing the number of panel members who rated the procedure as noted in the column heading (ie, 1, 2, 3, etc.).

Additional supporting documents about the AC methodology and processes can be found at [www.acr.org/ac](http://www.acr.org/ac).